

% by weight, and said one or more polyfunctional diluents is present in an amount of from about 5 % by weight to about 40 % by weight, all relative to the total weight of the composition.

¹³
~~45~~. (Amended) The composition of claim ~~44~~³, wherein said (meth)acrylate ester is present in an amount of from about 0.2 % by weight to about 4 % by weight, relative to the total composition.

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~~46~~. (Amended) The composition of claim ~~45~~¹⁴, wherein said photoinitiator is present in an amount of from about 2 % by weight to about 7 % by weight, relative to the total composition.

REMARKS

Upon entry of this amendment, claims 19, 27, 31-39, 43-48, and 52-53 will be pending, of which claim 27 is independent. Claim 27 has been amended to further specify components (b)-(e) in the composition. Claims 29, 40-42, and 49-51 were consequently cancelled, and several claims were revised to provide antecedent basis in view of the revisions to claim 27. No new matter has been introduced. For instance, support for "bisphenol A diacrylate" and "ethoxylated bisphenol A diacrylate" in claim 27 can be found in Table 1, page 21, of the application. Furthermore, support for "at least one Tg of below 20°C" in claim 27 can be found on page 7, lines 2-5 of the application. Reconsideration of the outstanding rejections is respectfully requested in view of the above amendments and the following remarks.

Claims 19, 27, 29, and 31-49 stand rejected under 35 U.S.C. §112, first paragraph. Regarding the photoinitiator, Applicants respectfully submit that the claims should not have to be limited to a *phenyl ketone* photoinitiator, for instance because the specification mentions a variety of other photoinitiators. *See, e.g.*, page 14, lines 16-25 of the specification. Furthermore, with respect to the Examiner's other concerns regarding 35 U.S.C. §112, Applicants note that the claims have been reviewed and revised bearing in mind these concerns. It is respectfully submitted that all claims, as amended, are in full compliance with 35 U.S.C. §112.

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Claims 19, 27, 29-49 stand rejected under 35 U.S.C. § 102 as being obvious over EP 0,081,041 (hereinafter “EP ‘041”). In addition, claims 19, 27, 29-49 stand rejected under 35 U.S.C. § 103 as obvious over US Patent No. 5,352,712 to Shustack in view of EP ‘041. Applicants respectfully traverse these rejections for at least the following reasons.

The present invention relates to compositions comprising, *inter alia*, 5-50 wt% of a specific monofunctional diluent and 5-50 wt% of a specific polyacrylate diluent. The present compositions, after cure, have a dielectric dissipation factor at 60 Hz and 150°C of lower than about 0.2 and at least one T_g below 20°C.

First, Applicants reiterate that the references cited by the Examiner, either alone or in combination, do not provide one of ordinary skill in the art with any teaching on how to prepare compositions having a dielectric dissipation factor at 60 Hz and 150°C of lower than about 0.2.

Second, Applicants note that the compositions relied upon by the Examiner in EP ‘041 are outer primary coating compositions for optical fibers, and that EP ‘041 mentions that outer primary coatings most preferably have a T_g of above 40°C. *See* page 5, lines 6-8, of EP ‘041. It is respectfully submitted that EP ‘041 is absent any suggestion of, and arguably even teaches away from, compositions that after cure have at least one T_g below 20°C after cure.

Regarding EP ‘041 in view of Shustack, the Examiner appears to contend that it would be obvious to include the phosphoric acid adhesion promoter mentioned in EP ‘041 in the compositions of Shustack that comprise a hydrocarbon oligomer.

Applicants note that the compositions of Shustack that comprise a hydrocarbon oligomer are inner primary compositions. Shustack mentions a long list of monomers that are allegedly useful in its inner primary compositions. *See* column 12, lines 4-31 of Shustack. It is respectfully submitted, however, that Shustack lacks sufficient specificity to teach inner primary compositions comprising a monofunctional diluent in combination with one or more polyacrylate diluents -- much less compositions a monofunctional diluent in combination with and 5-50 wt% of one or more polyacrylate diluents selected from the group consisting of polyacrylated alkyl monomers, bisphenol A diacrylate, and ethoxylated bisphenol A

diacrylate. This is further demonstrated by the Examples of Shustack, where none of the exemplified primary compositions comprises a polyacrylate diluent.

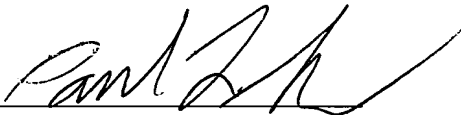
For any and all of the above reasons, it is respectfully submitted that the present invention is patentable over the EP '041 and Shustack, either alone or in combination.

CONCLUSION

Because all rejections have been addressed and overcome, it is respectfully submitted that the present application is in condition for allowance and a Notice to that effect is earnestly solicited. If any questions remain, the Examiner is encouraged to call the undersigned attorney to expedite the prosecution of this application.

Respectfully submitted,

PILLSBURY WINTHROP LLP

By 

Paul L. Sharer
Reg. No. 36,004
Tel. No.: (703) 905-2180
Fax No.: (703) 905-2500

PLS/wdw
1600 Tysons Boulevard.
McLean, VA 22102
(703) 905-2000

Enclosure: Appendix

APPENDIX TO SHOW CHANGES MADE

IN THE CLAIMS

Claims 29, 40-42, and 49-51 have been cancelled.

Claims 27, 36-39, and 43-46 have been amended as follows:

27. (Four Times Amended) A radiation curable composition comprising:

- (a) an acrylate functional urethane oligomer having a hydrocarbon backbone;
- (b) 5-50 wt%, relative to the total weight of the composition, of one or more polyfunctional diluents selected from the group consisting of polyacrylated alkyl monomers, bisphenol A diacrylate, and ethoxylated bisphenol A diacrylate;
- (c) **[an acidic adhesion promotor]** a (meth)acrylate ester of phosphoric acid;
- (d) **[optionally one or more light sensitive radical generating compounds]** 1.0 to 10 wt%, relative to the total weight of the composition, of a photoinitiator;
nd
- (e) 5-50wt%, relative to the total weight of the composition, of one or more monofunctional diluents selected from the group consisting of alkyl (meth)acrylate monomers, N-vinyl functional diluents, and vinyl ether functional diluents;

wherein said composition, after cure, has

a dielectric dissipation factor at 60 Hz and 150°C of lower than about 0.2; and
at least one Tg of below 20°C.

36. (Amended) The composition of claim 27, wherein said one or more **[mono- or polyfunctional]** monofunctional diluents [are] includes an acrylate functional diluent.

37. (Amended) The composition of claim 27, wherein **[the adhesion promoter]** said (meth)acrylate ester is present in an amount of from about 0.2 % by weight to about 5 % by weight, relative to the total composition.

38. (Amended) The composition of claim 27, wherein
(i) the urethane oligomer is present in an amount of from about 20 % by weight to about 80 % by weight, relative to the total composition, and
(ii) the one or more **[mono- or] monofunctional diluents and the one or more polyfunctional diluents are, combined,** present in an amount of from about 20 % by weight to about 80 % by weight, relative to the total composition.

39. (Amended) The composition of claim 38, wherein **[the adhesion promoter]** said (meth)acrylate ester is present in an amount of from about 0.2 % by weight to about 5 % by weight, relative to the total composition.

43. (Amended) The composition of claim 27, wherein **[the adhesion promoter]** said (meth)acrylate ester is present in an amount of from about 0.2 % by weight to about 4 % by weight, relative to the total composition.

44. (Amended) The composition of claim **[42] 27**, wherein the urethane oligomer is present in an amount of from about 30 % by weight to about 65 % by weight, **[the]** said one or more mono-acrylate functional diluents is present in an amount of from about 10 % by weight to about 50 % by weight, and **[the polyacrylate functional]** said one or more polyfunctional diluents is present in an amount of from about 5 % by weight to about 40 % by weight, all relative to the total weight of the composition.

45. (Amended) The composition of claim 44, wherein **[the adhesion promoter]** said (meth)acrylate ester is present in an amount of from about 0.2 % by weight to about 4 % by weight, relative to the total composition.

46. (Amended) The composition of claim 45, wherein **[the light sensitive radical generating compounds are]** said photoinitiator is present in an amount of from about 2 % by weight to about 7 % by weight, relative to the total composition.